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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,452	09/26/2006	Ulf Bjorkman	69993-236346	9258
26694	7590	03/04/2009		
VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998			EXAMINER CARLOS, ALVIN LEABRES	
			ART UNIT 3715	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/594,452

**Applicant(s)**

BJORKMAN ET AL.

**Examiner**

ALVIN L. CARLOS

**Art Unit**

3715

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-27 stand rejected under 35 U.S.C. 102(b) as being anticipated by Varshneya 6386879.

Re claim 1, Varshneya discloses a weapon effect simulation system (column 1 lines 5-8), comprising a fire simulation system comprising means for transmitting electromagnetic waves to simulate real ammunition from a weapon and means for including information in the electromagnetic waves and means for calculating an imagined trajectory of the simulated ammunition and means for determining a geographical position of the weapon (see figures 1A-B, column 2 lines 2-11), information in the electromagnetic waves is operative to including information related to coordinates in the three-dimensional space for the calculated ammunition trajectory (column 2 lines 14-20), and at least one hit simulation system comprising means for receiving the transmitted electromagnetic waves and means for determining whether a target has been hit based on the received electromagnetic waves (see figures 1A-B, column 2 lines 11-20).

Re claim 2, Varshneya discloses the means for transmitting electromagnetic waves comprising a laser transmitter operative to transmit laser radiation with at least one beam lobe (see figure 1B, column 2 lines 55-62).

Re claim 3, Varshneya discloses the means for transmitting electromagnetic waves further comprising a radio transmitter operative to transmit radio waves (column 3 lines 4-14).

Re claim 4, Varshneya discloses the means for determining whether the target has been hit is operative to determine target hits based primarily on the information in the laser radiation and secondarily on the information in the radio waves (column 2 lines 55-67 and column 3 lines 1-14).

Re claim 5, Varshneya discloses the means for transmitting electromagnetic waves comprises a radio transmitter operative to transmit radio waves (column 3 lines 4-14).

Re claim 6, Varshneya discloses the means for including information in the electromagnetic waves is operative to continuously include, based on the calculated trajectory, information concerning the current trajectory position of the simulated ammunition (column 3 lines 15-24).

Re claim 7, Varshneya discloses the means for including information in the electromagnetic waves is operative to including information concerning the trajectory positions of the simulated ammunition during a period of time that is shorter than the flight time of the real ammunition and based on the calculated trajectory (column 4 lines 32-57).

Re claim 8, Varshneya discloses the means for calculating the trajectory of the simulated ammunition is operative so as to determine the impact point or burst point of the ammunition, and the information related to the calculated ammunition trajectory contains the impact point or burst point (column 4 lines 58-67 and column 5 lines 1-10).

Re claim 9, Varshneya discloses the fire simulation system comprising a transmitter operative to transmit information regarding the geographical position of the weapon, and a minimum of one of the hit simulation systems comprises a receiver operative to receive said position data (column 2 lines 55-67 and column 3 lines 1-14).

Re claim 10, Varshneya discloses the information related to the calculated ammunition trajectory is determined relative to the geographical position of the weapon (column 2 lines 55-67 and column 3 lines 1-14).

Re claim 11, Varshneya discloses hit simulation system comprising means for determining the geographical position of the target (column 4 lines 16-31).

Re claim 12, Varshneya discloses hit simulation systems comprising a transmitter and the fire simulation system comprising a receiver operative to receive information from the transmitter of the hit simulation system (column 2 lines 55-67 and column 3 lines 1-14).

Re claim 13, Varshneya discloses the transmitter is operative to transmit information regarding the geographical position of the target (column 4 lines 43-47).

Re claim 14, Varshneya discloses the calculating means is operative to determine which target has been hit, and information related to the calculated

ammunition trajectory includes information that identifies the determined target (column 4 lines 32-57).

Re claim 15, Varshneya discloses the transmitter is operative to transmit a hit message upon determination of a hit (column 4 lines 58-67 and column 5 lines 1-10).

Re claim 16, Varshneya discloses the receiver for a hit simulation system that has not determined a hit, secondary object is operative to receive the transmitted hit message (column 5 lines 3-10).

Re claim 17, Varshneya discloses the means of the secondary object for determining hits is operative to decide upon receiving hit messages whether the secondary object has been hit (column 4 lines 58-67 and column 5 lines 1-10).

Re claim 18, Varshneya discloses the means for transmitting electromagnetic waves is operatively connected with the receiver of the fire simulation system and is operative to break off the simulation upon receiving the hit message (column 4 lines 58-67 and column 5 lines 1-10).

Re claim 19, Varshneya discloses the fire simulation system comprising means for displaying hit locations and effects based on received hit messages (column 5 lines 6-10).

Re claim 20, Varshneya discloses the means for displaying hit locations and effects is operative to display hit locations and effects visually (column 5 lines 6-10).

Re claim 21, Varshneya discloses the fire simulation system is disposed at a weapon (see figure 1A, column 2 lines 57-59).

Re claim 22, Varshneya discloses the means operative to determine the geographical position of the weapon has a geographical position that is separate from the geographical position of the means operative to transmit electromagnetic waves for simulating real ammunition (column 2 lines 55-67 and column 3 lines 1-4).

Re claim 23, Varshneya discloses hit simulation system is disposed in connection with a respective target (see figure 1A, column 4 lines 16-31).

Re claim 24, Varshneya discloses the means for determining whether a target has been hit is operative to determine the hit location on the target (column 4 lines 58-67 and column 5 lines 1-10).

Re claim 25, Varshneya discloses a player comprising fire simulation system and a hit simulation system wherein the means of the hit simulation system for determining whether a target has been hit are operatively connected with the means of the fire simulation system for transmitting electromagnetic waves and operative to break off the simulation in the event that a hit is determined corresponding to damage or injury that renders continued firing impossible (column 4 lines 32-67 and column 5 lines 1-10).

Re claim 26, Varshneya discloses a fire simulation system for weapon effect simulation systems (column 2 lines 3-20), comprising means for transmitting electromagnetic waves for simulating ammunition from a weapon (column 2 lines 57-59), means for including information in the electromagnetic waves operative to include information related to coordinates in the three-dimensional space for the calculated ammunition trajectory (column 2 lines 59-66), means for calculating the imagined

trajectory of the ammunition (column 5 lines 1-3), and means for determining the geographical position of the weapon (column 4 lines 32-67 and column 5 lines 1-10).

Re claim 27, Varshneya discloses a method for simulating the effect of a weapon on one or more potential targets (column 1 lines 1-4), comprising: modulating with information electromagnetic waves for simulating ammunition from the weapon (column 2 lines 3-6), information related to coordinates in the three-dimensional space for the calculated ammunition trajectory (column 2 lines 55-67 and column 3 lines 1-4), transmitting the modulated electromagnetic waves for reception by the potential targets (column 4 lines 16-31), making a determination is made upon reception for each respective target as to whether the target has been hit, based on the received electromagnetic waves and calculating the imagined trajectory of the simulated ammunition (column 4 lines 32-67 and column 5 lines 1-10).

### ***Response to Arguments***

3. Applicant's arguments filed 11/13/2008 have been fully considered but they are not persuasive.
4. The claim limitations mentioned below uses a "means plus function limitation" that invokes 35 U.S.C. 112, sixth paragraph.

means for transmitting electromagnetic waves to simulate real ammunition from a weapon and means for including information in the electromagnetic waves is describe in the specification as laser or radio transmitter.



means for calculating an imagined trajectory of the simulated ammunition and means for determining a geographical position of the weapon is describe in the specification as (GPS) program.

means for receiving the transmitted electromagnetic waves and means for determining whether a target has been hit based on the received electromagnetic waves is describe in the specification as laser or radio receiver.

In response to applicant's arguments that Varshneya does not disclose a fire simulation system that calculates an imagined trajectory of the simulated ammunition includes information in electromagnetic waves information related to coordinates in three-dimensional space for the calculated ammunition trajectory, the Examiner disagrees. Varshneya discloses a gunnery simulation system that provide a more precise gunnery training system that takes advantage of GPS locators and has improved capabilities and flexibilities to further enhance the realism of the tank gunnery training exercise in complex tactical situations. Furthermore, Varshneya discloses a gunnery simulation system that utilizes GPS and DGPS that determines a range to the target by comparing a set of GPS coordinates of the gun and the target. Based on the target azimuth, the target elevation, the range to the target and the time of the trigger pull the system control unit computes an impact point relative to the target of a simulated ballistic shell fired from the gun at the time of the trigger pull.

5. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., any realistic simulation of ammunition that is guided by the gunner or

observer/forward observer, where the trajectory of the ammunition can be corrected after firing and realistically simulate weapons with which a gunner can switch targets during the flight of the ammunition by adjusting the trajectory with a joystick) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

6. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALVIN L. CARLOS whose telephone number is (571)270-3077. The examiner can normally be reached on 7:30am-5:00pm EST Mon-Fri (alternate Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571)272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alvin L Carlos/  
Examiner, Art Unit 3715  
February 27, 2009

/Cameron Saadat/  
Primary Examiner, Art Unit 3715